

**Abstract**

In one aspect, the present invention relates to a method for obtaining structural information about an encoded molecule. The encoded molecule may be produced by a reaction of a plurality of chemical entities and may be capable of being connected to an identifier oligonucleotide containing codons informative of the identity of the chemical entities which have participated in the formation of the encoded molecule. In a certain embodiment, primers are designed complementary to the codons appearing on the identifier oligonucleotide, and the presence, absence or relative abundance of a codon is evaluated by mixing a primer with the identifier oligonucleotide in the presence of a polymerase and substrate (deoxy)ribonucleotide triphosphates and measuring the extension reaction. In another aspect, the invention provides a method for selecting compounds which binds to a target. More specifically, the invention relates to a method in which a target associated with an oligonucleotide initially is mixed with a library of complexes, each complex comprising a display molecule and an oligonucleotide identifying said display molecule. Next, due an increased proximity, the target oligonucleotide is coupled to the identifier oligonucleotide of complexes having a display molecule with affinity towards the target. In a final stage the coupled nucleotides are analysed to deduce at least the identity of the display molecule.